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(74) Agent: **FULBRIGHT & JAWORSKI L.L.P.**; 600 Congress Avenue, Suite 2400, Austin, TX 78701 (US).

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(71) Applicant (*for all designated States except US*): **BOARD OF REGENTS, THE UNIVERSITY OF TEXAS SYSTEM [US/US]**; 201 west 7th St., Austin, TX 78701 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **WINDSOR, J., Brian** [US/US]; 1006 Banister Lane #609, Austin, TX 78704 (US). **ROUX, Stan, J.** [US/US]; 8510 Forest Heights Lane, Austin, TX 78749-3505 (US). **LLOYD, Alan, M.** [US/US]; 2505 Forest Bend Drive, Austin, TX 78704 (US). **THOMAS, Collin, E.** [US/US]; 1230 York Avenue #219, New York, NY 1002 (US).

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(54) Title: METHODS AND COMPOSITIONS FOR INCREASING THE EFFICACY OF BIOLOGICALLY-ACTIVE INGREDIENTS

(57) Abstract: The invention provides methods and compositions for modulating the sensitivity of cells to cytotoxic compounds and other active agents. In accordance with the invention, compositions are provided comprising combinations of ectophosphatase inhibitors and active agents. Active agents include antibiotics, fungicides, herbicides, insecticides, chemotherapeutic agents, and plant growth regulators. By increasing the efficacy of active agents, the invention allows use of compositions with lowered concentrations of active ingredients.

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## INTERNATIONAL SEARCH REPORT

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PCT/US03/32667

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : A01N 37/00, 37/18, 47/34, 63/00  
 US CL : 504/117, 149, 329; 514/553, 621

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 504/117, 149, 329; 514/553, 621

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
noneElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
WEST: ectophosphatase, apyrase, inhibit--, suramin**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/0077365 A1 (WINDSOR et al). 20 June 2002 See entire document.	1-30
X	US 2002/0103082 A1 (WINDSOR et al).01 August 2002, See entire document.	1-30
X	YUNBAM et al. "In vivo evaluation of reuterin and its combinations with suramin, melarsoprol, DL-alpha-difluoromethylornithine and bleomycin in mice infected with Trypanosoma brucei brucei". Comp. Biochem. Physiol. 1993. Vol 105C, No. 3, pages 521-524.	1-30
X	US 4,737,521 (STUNKEL et al) 12 April 1998, See entire document.	1-30

<input type="checkbox"/>	Further documents are listed in the continuation of Box C.	<input type="checkbox"/>	See patent family annex.
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"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner of Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230		Authorized officer <i>Valerie Bell-Harrison</i> S. Mark Clardy Telephone No. 571-272-1600	